

# Improving energy efficiency in the data center: Endure higher temperatures with confidence with Dell PowerEdge HS5620 servers

compared to Supermicro SYS-621C-TN12R servers

## Dell PowerEdge HS5620

✓ No component warnings or failures in the scenarios we tested

## Supermicro SYS-621C-TN12R

- ✗ Warnings in each scenario
- ✗ Component failures in three scenarios
- ✗ System failure in two scenarios



Two-hour intensive floating-point workload, similar to an AI/ML inference workload, starting at ambient temperatures of 25°C, shutting air handlers off after 15 minutes, and turning air handlers on when temperatures reached 35°C

**Continued without failure in 35°C conditions**

where the Supermicro SYS-621C-TN12R server failed



Dell server ran with no component-level warnings or failures



Supermicro server OS SSD failed—while consuming more power than the Dell server



Two-hour intensive floating-point workload, similar to an AI/ML inference workload, at ambient temperatures of 25°C

**Maintained OS SSD temps 33°C cooler\*** in 25°C ambient conditions



Dell server displayed no component warnings or failures



Supermicro server BMC warned that OS SSD had reached non-recoverable state



Two-hour intensive floating-point workload, similar to an AI/ML inference workload, starting at ambient temperatures of 25°C, shutting air handlers off after 15 minutes, and turning air handlers on when temperatures reached 35°C

**Kept OS SSD temps 34°C cooler\*** during an HVAC malfunction scenario



Dell server OS SSD averaged 48°C



Supermicro server OS SSD averaged 82°C

For more details on the other scenarios and an analysis of each system's cooling design, read the report

<https://facts.pt/gPS09my>